

MAMMALS OF FOREST REMNANTS IN A RURAL AREA OF COLOMBIA: A COMMUNITY IN A SEASONAL ENVIRONMENT

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In the Orinoco region of Colombia, the agricultural frontier is expanding and the climatic dynamics impose contrasting conditions for production systems and wildlife. We propose that the variation in the capture rate of mammals and the diversity of the mammal assemblage in a rural area of the Andean piedmont can be explained by the climatic variation of the region. We worked in a rural area of the Andean piedmont between May 2022 and March 2024, including two complete hydrological cycles with months of low and high precipitation. We installed 12 camera-traps in two tropical rainforest remnants surrounded by crops and sampled for 700 nights, i.e., total effort 8400 night×traps. We calculated the capture rate of each species as the quotient between the number of independent records per species and the sampling effort. We estimated diversity using Hill's numbers: q_0 , q_1 and q_2 . We examined the relationship between each species capture rate and the diversity with monthly precipitation using linear and nonlinear regressions. We found a differential response of species diversity and capture rate of four mammal species between the two hydrological cycles

analyzed. During the first cycle the variation of diversity is inversely correlated to the monthly precipitation. Also, the capture rate of *Cabassous unicinctus*, *Sapajus apella* and *Didelphis marsupialis* depended on monthly precipitation, with a higher probability of recording these species in dry months than in rainy ones. In contrast, in the second cycle the variation of species diversity was positively correlated to the monthly precipitation. Moreover, only the capture rate of *Myrmecophaga tridactyla* was related to precipitation, and there was a higher probability of recording this species during the rainy months. The first hydrological cycle had lower variability in monthly precipitation than the second, and the second also had lower several months with the lowest observed values of precipitation. We posit that these differences explain the differences in diversity responses and capture rates between hydrological cycles. In conclusion, our results suggest that both the capture rate of some species and the diversity in a rural area of the piedmont can be explained by changes in the particular pattern of a hydrological cycle. However, we also suggest that disturbances related to human activities in the area may also explain or amplify the effects associated with climate variation.

Key words: photo-trapping, Orinoco, forest remnants, productive systems, climatic variation.